(54) INK JET PRINTER HEAD

(11) 6-91864 (A) .(43) 5.4.1994 (19) JP

(21) Appl. No. 4-240383 (22) 9.9.1992

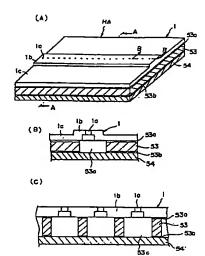
(71) BROTHER IND LTD (72) MANABU KATO

(51) Int. Cls. B41J2/045,B41J2/055

PURPOSE: To obtain an ink jet printer head preventing a positional shift between

formed plates, a leakage of ink, and the like.

CONSTITUTION: In an ink jet printer head HA provided with an orifice forming part with ink jetting orifices la juxtaposed; a membrane plate lc provided with ink supply paths for supplying ink to the orifices 1a; a laminate 53 overlapped on the membrane plate 1c and provided with ink chambers for supplying ink to the ink supply paths; and a piezoelectric element 54 overlapped on the laminate 53 to apply a pressure to the ink chambers, the orifice forming part la and the membrane plate lc are integrally molded.



(54) INK JET HEAD

(THE REPORT OF STREET (43) 5.4.1994

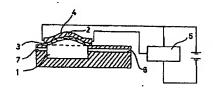
(21) Appl. No. 4-247679 (22) 17.9.1992

(71) SEIKOSHA CO LTD (72) YOSHIHIRO KONDO

(51) Int. Cl⁵. B41J2/045,B41J2/055

PURPOSE: To obtain an ink jet head having a shape memory alloy with an improved reliability, a reduced size, and an enhanced density.

CONSTITUTION: A pressurizing vibration body 4 formed by securely laminating a shape memory alloy 2 on a shape regulating body 3 is regulated in shape to be deflected upward by the shape regulating body 3. By heating the pressurizing vibration body 4 by a drive circuit 5, the shape memory alloy 2 reaches a transformation temperature and changes in shape to be deflected downward, thus reducing a volume of an ink chamber 1 to pressurize ink liquid inside to jet the ink liquid from a nozzle 7. By interrupting the heating by the drive means, the pressurizing vibration body 4 is regulated into the unheated shape by the shape regulating body 3. By repeating the aforesaid operation, printing is conducted.



(54) INK JET HEAD

(11) 6-91866 (A) (43) 5.4.1994

(21) Appl. No. 4-247680 (22) 17.9.1992

(71) SEIKOSHA CO LTD (72) YOSHIHIRO KONDO

(51) Int. Cl⁵. B41J2/045,B41J2/055

PURPOSE: To obtain an ink jet head having a shape memory allow with an improved reliability, a reduced size, and an enhanced density.

CONSTITUTION: A pressurizing vibration body 4 is heated by a drive circuit 5. In this manner, firstly, a first shape memory allay 2 reaches a transformation temperature and changes into a matrix phase, thus expanding a volume of an ink chamber 1. Next, a second shape memory alloy 3 reaches a transformation temperature and changes into a matrix phase, thus reducing a volume of the ink chamber 1. A volume change from the volume of the ink chamber 1 at the first transformation temperature to the volume of the ink chamber 1 at the next transformation temperature results in ink liquid being pressurized and jetted out of a nozzle 7 as an ink liquid drop.

